

In the Claims

Please amend the claims as follows.

1. (Currently amended) A method for transiently transforming plant cells or plant tissue for the large scale production of recombinant polypeptide comprising:

- i) providing a plant tissue sample to a bioreactor or cultivating plant cells or plant tissue in liquid medium in a bioreactor under conditions suitable for growth of the cells or tissue,
- ii) inoculating the plant cells or plant tissue with a culture of Agrobacteria when suitable growth of the cells or tissues is obtained, the Agrobacteria containing a vector comprising a nucleotide sequence encoding the recombinant polypeptide ~~to the plant tissue sample~~;
- iii) culturing the plant cells or plant tissue and the Agrobacterium under conditions suitable for transfer of the nucleotide sequence to the plant cells or the plant tissue to thereby produce transiently transformed plant cells or plant tissue,
- iv) growing the transiently transformed plant cells or plant tissue in liquid medium for about one to about four days under conditions that enable the transiently transformed plant cells or tissue to transiently express the recombinant polypeptide; and
- v) ~~isolating~~ recovering the recombinant polypeptide from the transiently transformed cells or tissue of step (iv),

wherein the conditions are monitored during step ~~(i)~~, (iii), and/or (iv) by measuring optical density, pH, temperature, nutrient levels, oxygen, conductivity, refractive index, osmolarity, calcium level of the medium, protein expression level, or a combination thereof.

2. (Original claim) The method according to claim 1, wherein the bioreactor contains from about 50 ml to about 10,0000 liter of cells.

3. (Previously amended). The method according to claim 1, wherein said plant tissue sample is a plant cell suspension culture.

4. (Previously amended). The method according to claim 1, wherein said plant tissue sample comprise a root culture.

5. (Original claim). The method according to claim 1, wherein said *Agrobacterium* is *Agrobacterium tumefaciens* or *Agrobacterium rhizogenes*.

6. (Original claim). The method according to claim 1, wherein said plant is a dicot or a monocot.

7. (Original claim). The method according to claim 6, wherein said dicot is tobacco, potato, bean or soybean.

8. (Original claim).The method according to claim 6, wherein said monocot is corn.

9. (Original claim). The method according to claim 1, wherein the *Agrobacterium* is an auxotroph.

10. (Currently amended). The method according to claim 9, wherein the auxotroph is deficient in its ability to metabolize amino acids, vitamins, and/or nucleic acid precursors, wherein said auxotroph has impaired ability to grow in a plant root or cell culture.

11. (Original claim). The method according to claim 1, wherein the polypeptide is a protein.

12. (Original claim). The method according to claim 11, wherein said protein is an antibody or enzyme.

13. Canceled.

14. Canceled.

15. (Currently amended). The method according to claim 1, wherein the Agrobacterium is added to plant culture at about 7 to about 14 days of the plant culture or at a plant biomass concentration of about 30 g DW/L.

16. (Original claim). The method according to claim 1, wherein the length of time for reaction between the plant culture and Agrobacterium is about 1 to about 4 days.

17. (Original claim). The method according to claim 1, wherein about 100 mg of the polypeptide is obtained from about a 100 liter volume of cells.

18. (Original claim). The method according to claim ~~14~~1, comprising controlling the pH to about 4.9 to about 6.1.

19. (Original claim). The method according to claim ~~13~~1, comprising adding an Agrobacterium DNA transfer activator to the mixture of plant culture and Agrobacterium culture.

20. (Original claim). The method according to claim 19, wherein the activator is acetosyringone or syringaldehyde.